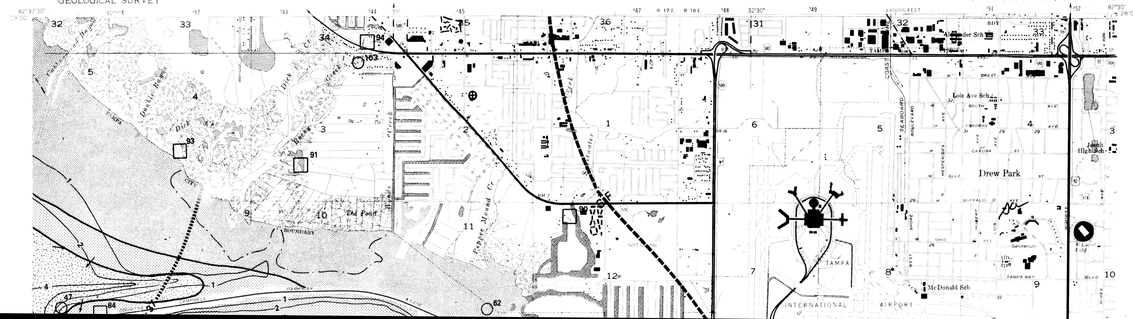
I 49.89/2:85 (15) map B10

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GANDY BRIDGE QUADRANGLE
FLORIDA
7.5 MINUTE SERIES (TOPOGRAPHIC)



MAP B10

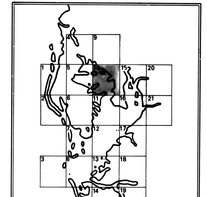
I49.89/2:85(15) map B10

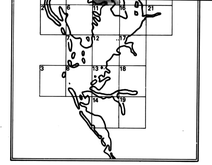
ORIGINAL

TAMPA BAY ENVIRONMENTAL ATLAS

WATER RESOURCES

GANDY BRIDGE





Scale 1:24,000

1984

TOPICAL MAPS IN THIS ATLAS:

A. BIOLOGICAL RESOURCES
B. WATER RESOURCES

Produced by U.S. Fish and Wildlife Service
Projection and 1,000 meter grid, zone 17: Universal Transverse Mercator
10,000-foot grid ticks based on Florida coordinate system, east and west zones

Overlay material compiled in 1984 from latest available data obtained from Federal, State and Local government agencies and other sources.

There is no map A19 due to a lack of data.

agencies and other sources.

There is no map A19 due to a lack of data.

LEGEND

35 — MEAN ANNUAL MID-DEPTH SPECIFIC CONDUCTIVITY ISOPLETH (WATER QUALITY) CONTOUR MAP
Five year mean annual specific conductivity September 1978 - August 1983 (mmhos)

POINT SOURCE DISCHARGES *

10 Q=___ Industrial Point Source Discharge. Q is permitted capacity in total gallons per day (tgd) or in millions of gallons per day (mgd).

10 Q=___ Municipal Point Source Discharge. Q is permitted capacity in total gallons per day (tgd) or in millions of gallons per day (mgd).

DREDGE SPOIL DISPOSAL SITES

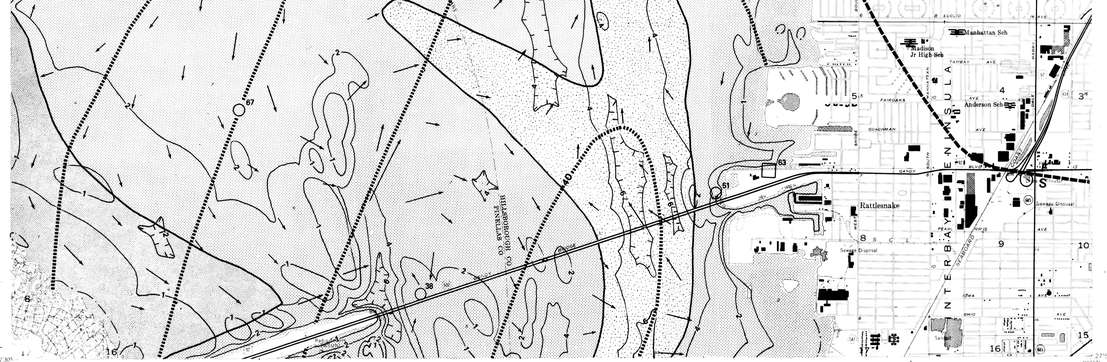
TIDE STATION *
(National Ocean Service)

10 Active tide station. The tide station number is listed next to the symbol.

10 Inactive tide station location. The tide station number is listed next to the symbol.

10 WATER QUALITY SAMPLING STATION *
Hillsborough County Environmental Protection Commission
Five year seasonal means, Sept. 1978 - Aug. 1983

2 BATHYMETRY
The contour interval is 2.0 meters with an



THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE'S ESTUARINE HABITAT PROGRAM TO PROVIDE SIGNIFICANT ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC. TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES

N.O.S. TIDE STATIONS: Index of tide stations for the state of Florida National Ocean Service, Rockville, Md. 1981

WATER QUALITY: Total chlorophyll, conductivity, turbidity, temperature and total nitrogen data for Tampa Bay water quality stations, Sept. 1978 - August 1983 Hillsborough

SCALE 1:24 000

0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

0 1 KILOMETER

WATER QUALITY SAMPLING STATION *
(Hillsborough County Environmental Protection Commission)
Five year seasonal means, Sept. 1978 - Aug. 1983

BATHYMETRY

The contour interval is 2.0 meters with an octal 1.0 meter supplemental contour line added to better define sheals and inshore tidal flats.

INTERTIDAL ZONE

This zone demarcates the area exposed and flooded by the tides and occurs between the line and the shore.

GENERALIZED SEDIMENT MAP

- Sand
- Shelly Sand
- Silty Sand
- Clayey Sand
- Sandy Clay
- Silt

NET TIDAL CURRENT

Resultant tidal current. The direction is indicated by the arrow and the discharge range is feet per second

- 0.01 - 0.10 ft/sec
- 0.11 - 0.20 ft/sec
- 0.21 - 0.30 ft/sec
- 0.31 - 0.50 ft/sec
- >= 0.50 ft/sec

FRESHWATER/SALTWATER INTERFACE
(U.S. Geological Survey 1979)
250 mg/l line of equal chloride concentration in the upper part of Floridan aquifer.

*Symbols appearing with numbers are described more fully in the narrative

MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)
1.0
1.1

16
Radio Towers
(WSUN)
92
27°52'30"
82°37'30"

THE TAMPA BAY ENVIRONMENTAL ATLAS WAS PRODUCED BY THE U.S. FISH AND WILDLIFE SERVICE, DIVISION OF BIOLOGICAL SERVICES NATIONAL COASTAL ECOSYSTEMS TEAM (FWS/OBS) FOR COASTAL PLANNERS, DECISION MAKERS AND THE GENERAL PUBLIC, TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES A MAJOR PORTION OF THE COASTAL COUNTIES OF PINELLAS, HILLSBOROUGH, MANATEE, AND A SMALL PORTION OF SARASOTA. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES.

THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS.

PRIMARY SOURCES OF MAPPED INFORMATION

SALINITY: Conductivity for Tampa Bay water quality sampling stations Sept. 1978 - August 1983. Hillsborough County Environmental Protection Commission.

POINT SOURCE DISCHARGES: Computer printout of industrial and municipal point source discharges in West Central Florida. Florida Dept. of Environmental Regulation, 1983.

DREDGE SPOIL DISPOSAL AREAS: Dredge and Spoil easement location maps. Florida Dept. of Natural Resources.

N.O.S. TIDE STATIONS: Index of tide stations for the state of Florida. National Ocean Service, Rockville, Md. 1981.

WATER QUALITY: Total chlorophyll, conductivity, turbidity, temperature and total nitrogen data for Tampa Bay water quality stations, Sept. 1978 - August 1983. Hillsborough County Environmental Protection Commission.

BATHYMETRIC: Bathymetric map to St. Petersburg Quadrangle, N.O.S. 1978.

INTERTIDAL ZONE: Nautical Chart #'s 11410, 11413, 11414 and 11425. N.O.S., Rockville, Md. 1983.

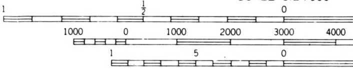
SEDIMENTS: Sediments, oceanographic observations and Floristic data for Tampa Bay, Florida and adjacent waters, 1961-1965, Taylor and Saloman, 1969.

TIDAL CURRENTS: Changes in tidal flow, circulation and flushing caused by dredge and fill in Tampa Bay, Florida. U.S. Geological Survey Open File Report #84-447. Goodwin, 1984.

FRESHWATER-SALTWATER INTERFACE: Position of the Freshwater-Saltwater interface in the upper part of the Floridan aquifer, Southwest Florida, 1979. U.S.G.S. water resources open-file report 82-90. Causseaux and Fretwell, 1982.

FOR COMPLETE REFERENCE SEE MAP NARRATIVE

SCALE 1:24000



Supplemental Legend (Cont'd)

Station #50 Lat. 27°55'07" Long. 82°32'16"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)
Total Chlorophyll (ug/l)	20.3	29.0	29.2	15.8
Conductivity (mmhos)	39933	38489	36800	42033
Turbidity (NTU'S)	3.3	3.9	2.8	2.0
Temperature (°C)	22.2	29.7	25.1	15.6
Total Nitrogen (mg/l)	0.69	0.83	0.71	0.54

Station #51 Lat. 27°53'30" Long. 82°32'35"

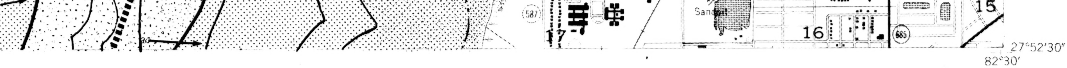
PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)
Total Chlorophyll (ug/l)	27.5	33.6	30.3	18.1
Conductivity (mmhos)	40617	38265	37550	42833
Turbidity (NTU'S)	4.4	3.9	2.7	2.4
Temperature (°C)	22.0	29.5	24.9	15.4
Total Nitrogen (mg/l)	0.72	0.80	0.87	0.63

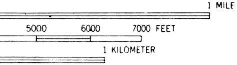
Station #61 Lat. 27°58'06" Long. 82°33'37"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)
Total Chlorophyll (ug/l)	22.9	32.7	37.0	20.8
Conductivity (mmhos)	37400	33471	33650	37800
Turbidity (NTU'S)	4.6	5.0	4.3	2.9
Temperature (°C)	22.0	29.0	24.7	15.8
Total Nitrogen (mg/l)	0.78	1.09	1.13	0.92

Station #62 Lat. 27°58'16" Long. 82°34'22"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)
Total Chlorophyll (ug/l)	26.0	34.7	38.5	23.4
Conductivity (mmhos)	34300	30325	30517	35167
Turbidity (NTU'S)	6.3	7.1	4.5	4.5
Temperature (°C)	22.0	28.6	24.4	15.1
Total Nitrogen (mg/l)	0.83	1.09	1.13	0.81





ANNUAL (1-12)
23.6
39314
3.0
23.2
0.69

ANNUAL (1-12)
27.4
39816
3.4
23.0
0.76

ANNUAL (1-12)
28.4
35580
4.2
22.9
0.98

ANNUAL (1-12)
30.6
32577
5.6
22.5
0.96

Station #63 Lat. 27°58'08" Long. 82°34'40"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	22.3	25.8	30.4	17.5	24.0
Conductivity (mmhos)	38267	36749	35383	40800	37800
Turbidity (NTU'S)	4.7	4.9	3.2	2.3	3.8
Temperature (°C)	22.4	30.1	25 2	16.0	23.4
Total Nitrogen (mg/l)	0.59	0.94	1.04	0.60	0.79

Station #67 Lat. 27°54'02" Long. 82°35'53"

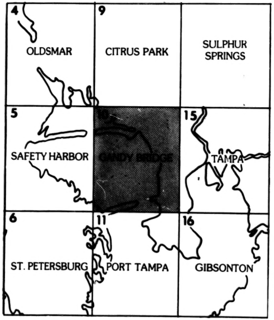
PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	26.4	35.6	31.8	19.0	28.2
Conductivity (mmhos)	38950	37081	35433	39300	37691
Turbidity (NTU'S)	4.6	6.6	4.4	3.0	4.6
Temperature (°C)	21.7	29.1	24.6	15.1	22.6
Total Nitrogen (mg/l)	0.69	0.87	1.01	0.75	0.83

Station #103 Lat. 27°59'47" Long. 82°35'12"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	32.3	28.2	21.3	21.8	25.9
Conductivity (mmhos)	11828	10047	7242	12156	10318
Turbidity (NTU'S)	6.8	4.9	6.1	6.2	6.0
Temperature (°C)	23.2	28.2	24.6	16.5	23.2
Total Nitrogen (mg/l)	1.40	1.59	1.37	1.62	1.49

Station #104 Lat. 27°58'06" Long. 82°33'17"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	39.0	34.9	30.1	22.8	31.7
Conductivity (mmhos)	15777	8727	11289	18946	13685
Turbidity (NTU'S)	8.5	8.3	6.7	6.6	7.5
Temperature (°C)	22.9	28.1	24.3	16.0	22.8
Total Nitrogen (mg/l)	1.34	1.40	1.26	1.14	1.29



Note: Specific conductivity values on the supplemental legend should be in μmhos.

Supp

→ 0.31 - 0.50 ft/sec

→ > 0.50 ft/sec

F
▬ ▬ ▬ ▬ ▬
S

FRESHWATER/SALTWATER INTERFACE

(U.S. Geological Survey 1979)
250 mg/l line of equal chloride
concentration in the upper part
of Floridan aquifer.

**Symbols appearing with numbers are described more fully in the narrative*

lemental Legend for Water Quality Stations on This Map

Station #38 Lat. 27°52'54" Long. 82°34'40"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	24.1	31.0	30.7	16.4	25.6
Conductivity (mmhos)	39700	37836	36583	40542	38665
Turbidity (NTU'S)	3.9	3.9	3.2	2.4	3.4
Temperature (°C)	21.9	29.3	24.8	15.2	22.8
Total Nitrogen (mg/l)	0.62	0.80	0.88	0.45	0.69

Station #40 Lat. 27°55'45" Long. 82°35'00"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	25.0	28.0	35.1	18.2	26.6
Conductivity (mmhos)	39167	37057	35283	40533	38010
Turbidity (NTU'S)	4.5	5.0	3.2	2.1	3.7
Temperature (°C)	21.6	29.0	24.7	15.4	22.7
Total Nitrogen (mg/l)	0.68	0.86	0.85	0.58	0.74

Station #41 Lat. 27°56'15" Long. 82°33'54"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	21.6	28.8	31.0	15.2	24.2
Conductivity (mmhos)	39117	37165	36067	41033	38346
Turbidity (NTU'S)	4.2	3.7	3.2	1.9	3.2
Temperature (°C)	22.0	29.7	25.0	15.6	23.1
Total Nitrogen (mg/l)	0.59	0.73	0.81	0.49	0.66

Station #47 Lat. 27°58'20" Long. 82°37'13"

PARAMETER	SPRING (3-5)	SUMMER (6-8)	FALL (9-11)	WINTER (12-2)	ANNUAL (1-12)
Total Chlorophyll (ug/l)	22.3	28.4	31.4	16.5	27.4
Conductivity (mmhos)	37267	35371	33933	39300	36468
Turbidity (NTU'S)	5.6	5.6	3.8	2.6	4.4
Temperature (°C)	21.6	28.9	24.2	14.8	22.4
Total Nitrogen (mg/l)	0.85	0.85	0.87	0.67	0.81

MICROFILMED FROM
BEST AVAILABLE COPY

MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)

Salinity (PPT)	16.2	20.0	19.1	19.1	23.6
Temperature (°C)	23.0	28.8	24.4	19.1	23.6
Total Nitrogen (mg/l)	0.83	1.09	1.13	0.81	0.96

Temperature (°C)	22.9	28.1	24.3	18.0	22.8
Total Nitrogen (mg/l)	1.34	1.46	1.26	1.16	1.39

Total Nitrogen (mg/l)	0.85	0.85	0.81	0.81	0.81